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ABSTRACT

A series of studies with learning disabled (LD) elementary grade students in eight schools investigated the relationship between class placement (regular class, part time regular class, or special class) and self concept. Ss were administered the Piers Harris Children's Self Concept Scale before and after placement changes. Results included the following: school labeled LD children in regular classrooms exhibited negative self regard; placement of LD labeled children in resource rooms with similarly handicapped children on a half day basis was associated with increased self regard; placement of LD labeled children into self contained LD classrooms was associated with increased self regard; when LD labeled children in self contained LD classrooms were mainstreamed on a half day basis, their self regard escalated dramatically; and when LD labeled children in self contained LD classrooms were mainstreamed on a full day basis, their self regard decreased. Results were compared with other studies showing that when exceptionally talented children are separated in homogeneous classrooms, their average level of self esteem is as low as children failing in regular classes. (DB)

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Affective Reactions to Academic Outcomes:

A Social Comparison Perspective

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Footnotes

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Affective Reactions to Academic Outcomes:

A Social Comparison Perspective

In 1974, I began a program of research on school-related factors which influence learning disabled (LD) children's self-concepts. I was particularly interested in examining the impact of initial special class placement upon children's self-conception, and of measuring any subsequent changes which occurred when children previously in self-contained special classrooms were mainstreamed. This research program resulted in several published reports, some of a technical nature, and none of which communicated the full scope of research activities.

My objective in this paper is to organize this body of research within a social comparison perspective from which it sprang, and to emphasize educational implications of the findings. The paper will not include experimental design or statistical analysis details, but will refer the interested reader to appropriate original sources. Also, discussion of self-concept measurement issues (e.g., reliability and validity) will be minimized. I stated my views on these issues previously (Rogers, Smith, & Coleman, 1978; Smith, Dokecki, & Davis, 1977; Smith & Rogers, 1977; Smith & Rogers, 1978; Smith, Zingale, & Coleman, 1978; Strang, Smith, & Rogers, 1978) and they need not be repeated here in detail.

In the Beginning

In 1974, I became associated with a Child Service Demonstration Center (CSDC) which was mandated to plan, develop, implement, and evaluate a replicable service delivery model to enhance the development of learning disabled (LD) children and their families. The plan of the CSDC was to combine resources from a psychoeducational agency and a cooperative school system in order to

provide learning handicapped children with more comprehensive and effective services than otherwise possible. These objectives were to be accomplished through diagnostic/prescriptive programming both in situ and in demonstration classrooms on the sponsoring college campus. Educational and liaison specialists assisted teachers to evaluate children, develop individualized educational programs, and implement the programs in special and regular classrooms. A superordinate consideration was that each child receive the least restrictive educational placement possible. Accordingly we planned to reintegrate the LD-labeled children into the educational mainstream.

An integral evaluation component was designed to assess the impact of our educational programming efforts and of the mainstreaming experience. The primary emphasis was upon determining the impact of project activities upon academic functioning, but we also monitored cognitive and affective changes. Details of project conceptualization and impact upon academic functioning is available elsewhere (Davis, Dokecki, Coleman, Smith, & Wood, Note 1; Davis & Dokecki, Note 2). Several studies also resulted from the interest in the cognitive domain (Smith, 1978; Smith, Coleman, Dokecki, & Davis, 1977a; Smith, Coleman, Dokecki, & Davis, 1977b; Smith & Rogers, 1978; Zingale & Smith, 1978).

Notwithstanding the considerable knowledge payoff regarding LD children's academic achievement and cognitive functioning, there is little question that the most interesting information from the project concerned insight into school-related factors which influence self-concept. We realized quite early that we knew little about what influenced self-concept. Moreover, it was not long before we also came to believe that what we knew was possibly incorrect. As the intervention project developed, evidence continued

to accumulate suggesting that educational outcomes and the associated mainstreaming experience have the potential for profoundly altering the self-conceptions of educationally exceptional children. The remainder of this paper is devoted to briefly reviewing what we learned, how we interpreted the findings in the context of social comparison and group reference theory, and discussion of implications for educational practice.

The Self-Concepts of Learning Disabled Children

One of the primary objectives of the CSDC Project was enhancement of children's self-concept. We believed that self-concept and academic achievement was intimately related (e.g., Purkey, 1970). Also, we believed that positive self-regard was essential for adequate social functioning. Moreover, we were aware of the literature from sociology on stigmatization, labeling, and the self-fulfilling prophecy. In short, we were non-critically reflecting the prevailing conventional wisdom that children with a long history of academic failure who had been labeled as learning disabled and placed in special classrooms would feel quite poorly about themselves, especially concerning self-conceptions of academic ability. We were concerned that the children had been stigmatized as "dumb", "special class", "poor or slow learner" or similar epithets and that such pejorative labeling had produced diminished self-regard, especially self-concept of academic ability. We envisioned our intervention as one that would make the children significantly better learners and de-label them in the sense of placing each child in the least restrictive educational environment possible.

Thereby, we thought we could significantly enhance self-concept. In order to persuasively demonstrate our success, however, we needed a measure

of the preintervention level of self-concept. We selected a children's self-concept assessment instrument that was top-rated by Robinson & Shaver (1973) and highly rated by Wylie (1974) that also could be group administered. The scale was the Piers-Harris Children's Self-Concept Scale (Piers, 1969; 1977), which consistently has yielded alpha coefficients in the .89 to .94 range with LD children (Smith & Rogers, 1978) and other acceptable psychometric properties (Smith & Rogers, 1977; Smith, Dokecki, & Davis, 1977). Also, the Piers-Harris scale can be scored for a number of subdimensions (cluster scores), one of which (Intellectual and School Status) appears to tap the construct of self-concept of academic ability (Rogers, Smith, & Coleman, 1978). Scores on the total (or composite) Piers-Harris may range from 0 to 80, with higher scores indicating positive self-regard. The standardization sample mean reported in the Manual (Piers, 1969) was 51.84.

We obtained cooperation of 8 of the 10 schools in a large metropolitan school system with self-contained classrooms for LD children. Twenty-three self-contained classrooms were involved, each with a maximum enrollment of 10. In our initial testing, the self-concept scale was administered to 206 children. The children were school-labeled as LD: we did not influence initial referral or placement. They had been enrolled in the LD classrooms an average of 12 academic months, were 76% male and 81% Caucasion, and ranged in age from 75 months to 145 months, with an average age of 117 months. Family socioeconomic levels ranged from very high to very low, but predominantly the children were from lower-middle-class and working-class homes (Rogers, Smith, & Coleman, 1978). We also administered the Wechsler Intelligence Scale for Children-Revised (WISC-R; Wechsler, 1974) and the Metropolitan Achievement Test (MAT). The mean Full Scale IQ was 87 (Smith, 1978). A crude index of learning disability was determined for each

child by calculating the estimated mental age in months (or test age; Wechsler, 1974, Table 21) and subtracting from this value the estimated total reading age, derived by converting the MAT total reading grade equivalent to a corresponding age in months. The obtained mean was 20.4 months, SD = 16.5 months. This disability index was positively correlated with age, $r = .43$, $p < .001$.

Results and discussion. We anticipated that the mean self-concept of the LD children would be depressed significantly, relative to regular classroom children. Also, we expected that the longer the children had been in the LD classrooms, the lower would be their self-concepts. To make a long story short, we were wrong on both accounts. The total (composite) self-concept mean score (51.94) of the LD-labeled children in self-contained classrooms was almost identical to the mean score reported for the normative group in the Piers-Harris manual (51.84). The standard deviations were similar also, 12.25 and 13.87 for LD children and the normative group, respectively. More important, scores on the critical Intellectual and School Status subdimension were not depressed. Additionally, there were no race or sex differences on the total self-concept score or any of the cluster scores. Moreover, the correlation between self-concept score and length of enrollment in self-contained LD classrooms was positive and statistically significant; not negative as we had predicted.

A possible explanation. All our preconceptions were disconfirmed. We considered denying reality, but decided instead to evaluate critically the logical and theoretical foundations of our "conventional wisdom" preconceptions. Increasingly I called upon principles and theory from social psychology to illuminate our quandary. The hypothesis guiding our efforts was that these LD children, because of their special class placement and

possible stigmatization, would possess lower self-concepts than their regular classroom counterparts. Results of the initial survey did not confirm this expectation. A search of the literature revealed scant and contradictory findings relative to these results with some studies indicating lowered self-concepts for LD children in self-contained classrooms and others indicating no differences between such children and those in the educational mainstream.

The null outcome of the initial survey and contradictory findings reported in the literature stimulated our interest in what factors might have accounted for the seemingly robust self-concepts of the LD children. Observations revealed that once the children arrived at school in the morning, they entered self-contained classrooms where they remained for the entire school day with no contact with children in regular classrooms. Further, all children in the self-contained classrooms had been assigned on the basis of common criteria: demonstrated learning difficulties. Most likely, then, the self-contained classrooms included children who perceived one another as being similar. Additionally, once in the classroom, children were accorded more attention than they received while in regular classrooms because maximum enrollment in each class was 10, and each teacher received assistance from a part-time teaching aide. The small group also probably made it easier for each child to feel a part of the whole. Finally, academic activities were structured in a manner to preclude the experience of failure.

In light of these school-related factors, the moderately high mean self-concept score obtained by these LD children seemed more understandable. Further, social comparison theory (Festinger, 1954) suggests that in the

absence of objective standards of comparison, people will employ significant others in their environment as the bases for forming estimates of self-worth. Also, given the choice of relatively similar and dissimilar others, similar individuals are more likely to be selected as the bases for social comparisons.

In a more general sense, LD children in special classes would be expected to base their self-concept-relevant social comparisons on other academically handicapped children in the same classrooms. When social comparisons are made with other children who possess similar academic handicaps, there is little reason to expect attenuated self-concepts. We might expect that only to the extent that LD children regularly are exposed in the school setting to other, nonhandicapped children, would their estimations of self-worth diminish. The presence of other children without academic handicaps would introduce another basis for social comparisons. Since this new social comparison group generally would possess superior academic performance capabilities, the self-concept of the LD child might decrease, at least to the extent that the child utilized the new reference children when making social comparisons relevant to the self-concept.

Implications for Mainstreaming

Our post hoc explanation had clear implications both for initial special class assignment and for subsequent mainstreaming. We decided to subject our ideas to empirical test.

Initial special class assignment. If children in self-contained LD classrooms do not exhibit depressed self-concepts, and if self-concept is positively correlated with length of enrollment in these classrooms, and if our explanation above is correct, then the implication is that LD

children in regular classrooms would have the lowest self-regard. They would have only one academic peer reference group, and in this group they would be at the bottom end of the ability dimension. Any academic-relevant comparison available to them would yield an unfavorable result. However, if they were placed in a self-contained classroom or in a part-day resource room with similarly academically disabled children, a new reference group would be available. In the newly formed reference group the children would be equally capable academically and social comparisons would not redound negatively to any of the children.

Louise Strang (Note 3) decided to test these implications. She located children in regular classrooms with a history of academic failure, who were scheduled to be placed in LD classrooms. She assessed their level of self-concept while they were still in regular classrooms and then at intervals after they were placed in LD classrooms. These children exhibited significantly depressed self-concepts while still in regular classrooms, compared with their regular classroom counterparts and with children who were already in self-contained LD classrooms. After placement in LD classrooms, however, their self-concept scores began to increase and by the end of the school year were comparable to the two comparison groups. (Test-retest instrument familiarity effects were controlled experimentally, so the observed increase across time could not be attributed to repeated testing with the same instrument.)

From self-contained classrooms to the academic mainstream. One objective of the PASS Project was to place children previously in self-contained LD classrooms into the least restrictive educational environment possible. The involved school system also was eager to insure every learning handicapped child equal educational opportunity. From a practical standpoint, however, it was neither possible nor desirable to abolish all LD classrooms and return

the children on a permanent basis to the educational mainstream. Instead, we designed a plan whereby children in self-contained classrooms would be mainstreamed on a half-day basis during reading and math periods and would spend the remainder of the day in LD classrooms. Children were placed into regular classrooms individually to minimize the possibility that other children would recognize and label them as learning disabled and thereby possibly set into motion a process of mutually reinforced failure expectations.

Because our resources were limited and the effects of mainstreaming were unknown, we randomly selected some classrooms for mainstreaming and used others as comparison (or control) classrooms. This permitted us to measure academic, cognitive, and affective changes in the children who were mainstreamed, and to compare these changes to any exhibited by similar children who remained in self-contained LD classrooms.

When an LD child is mainstreamed, a new peer reference group forms consisting of children potentially possessing greater academic performance capabilities than those of the previous LD peer reference group. Thus, the ned effect of the mainstreaming experience might be a diminution of self-regard in an LD child. Relative to his new peer reference group, the child might be an academic underachiever. To the extent that the new group is utilized in making social comparisons, self-regard (particularly in the area of intellectual and school status) might decrease.

In our situation, however, the children were being mainstreamed on a half-day basis, and were taught in LD classrooms with other LD children for the remainder of each day. This social/educational arrangement requires additional considerations. Whereas a child in a special class or a child mainstreamed full day is limited to one group of peers the child mainstreamed for only part of the day is provided with two groups, each having the capacity to

serve as comparative reference groups. Not only would the child have a small group of children academically similar, but also he or she would have a group labeled "normal" with whom to make additional self-other comparisons. Hyman and Singer (1971) and Rosenberg (1968) have pointed out that the individual may exercise relatively great freedom in choosing reference groups and may choose groups so as to enhance self-regard or to protect the ego. If enhancement of self-regard is both a function of comparisons with similar others and freedom to select reference groups for these comparisons, educationally exceptional children mainstreamed for half of each day would be expected to exhibit stable or even augmented levels of self-regard.

Results. Mainstreamed and comparison children were equivalent at the beginning of the school year on self-concept, WISC-R IQ, reading achievement, race and sex composition, age, and previous time in LD classrooms. Self-concept was assessed three times during the year: 1) at the beginning of the year before any intervention, 2) two weeks after the experimental children were mainstreamed, and 3) at the end of the school year.

For the 25 children in four LD self-contained classrooms who were not mainstreamed (i.e., who served as comparison children), mean composite self-concept scores at the three testing occasions were 53.1, 55.3, and 55.2. The corresponding means for mainstreamed children were 52.6, 58.9, and 63.7. Statistical analyses of these data revealed that the mainstreaming experience was associated with significantly augmented self-concept. A statistically significant pattern also occured on the Piers-Harris subdimensions of: 1) Intellectual and School Status, 2) Physical Appearance and Attributes, 3) Popularity, and 4) Happiness and Satisfaction. On the other hand, analyses indicated no differences between the two groups from the beginning to the end of the year on the variables of WISC-R IQ and academic achievement.

(See Strang, Smith, & Rogers (1978) for complete details.)

Discussion. How is this to be explained? Is mainstreaming good for exceptional children previously in self-contained classrooms? In this study children who were integrated into the educational mainstreaming for part of each day exhibited significantly augmented self-concepts. One explanation is that these children selectively utilized the two available comparative reference groups in maintaining and augmenting their self-regard (Hyman & Singer, 1971; Rosenberg, 1968). For academic-relevant social comparisons, they may have selected the group most similar to themselves (Festinger, 1954), i.e., the other academically handicapped children in their special classroom settings. For other self-concept relevant comparisons, however, these children may have utilized their new, regular classroom reference group. The mainstream integration experience may have imbued the children with an enhanced sense of "belonging", or of being more a part of the overall school environment. Assuming that the children liked specific aspects of both classes, it might have seemed that they were enjoying the best of both worlds. The net effect of providing the opportunity of exercising selectivity of comparison reference groups was significantly augmented self-concept, even in the absence of substantially improved academic performance. It was possible that the children felt more a part of the main organization of the school, and yet the school organization treated them specially by including them in two groups, thereby providing the opportunity to select different reference groups for different social comparisons.

This possible explanation, however, is not convincing because there is a plausible alternative explanation for the increased self-concept following mainstreaming. Rather than the process of social comparison dynamics suggested above, it is possible that children viewed the mainstreaming experience as an

indication that they were succeeding and thereby receiving preferential treatment. That is, they may have interpreted their classroom changes as success experiences.

The experiment reported above established that increased self-concept resulted when educationally exceptional children previously in self-contained classrooms were integrated into the educational mainstream on a half-day basis. However, the experiment could not establish what aspect of the mainstreaming experience caused the increased self-regard. Moreover, the experiment provided no insight into the very important question of what would happen if these children had been mainstreamed on a full-day basis? In this case, reference group selectivity would have been eliminated, and the only group available would have consisted of children with potentially superior academic performance capabilities. Under these circumstances, the children's self-regard may have decreased.

Simulated full-day mainstreaming. A year later we attempted to simulate full-day mainstreaming to rule out the plausible alternative explanation discussed above. Simulated full-day mainstreaming was studied because of administrative convenience and because we were suspicious of the possible negative impact of abrupt, complete mainstreaming.

All children in this study had been half-day mainstreamed for six weeks when the investigation was conducted. Their self-concepts were assessed at the beginning of the year and during this study.

The primary prediction was that full-day mainstreaming would produce decreased self-concept while half-day mainstreaming would produce increased self-concept. Because all children had been mainstreamed on a half-day basis, we attempted to simulate the experience of full-day mainstreaming by enhancing the salience of membership in regular classrooms for randomly

selected children. Thus, a randomly selected half of the children were free to utilize any reference groups they pleased while completing the self-concept scale (a replication of the study discussed above), but the other half of the children were specifically instructed to restrict their self-concept-relevant social comparisons to members of the regular classroom into which they had been mainstreamed. These children (the experimental group) were removed from their regular classrooms for testing. The comparison children were removed from self-contained LD classrooms for testing. Here is the manipulation given the experimental children:

> (Child's Name), you are a member of (Mainstream Classroom Teacher's Name) classroom. Here is a list of some of the children in your class. Let's read the names together, and as we read them I want you to circle the names of the children whom you know.

Regular instructions about task and confidentiality were then given.

> As you mark your answers to these statements, you will find that it is sometimes necessary to think of your classmates. For example, the first statement says, "My classmates make fun of me." On this and on the other statements where it is necessary to think of your classmates, remember to think of the children in (Mainstream Classroom Teacher's Name) classroom.

The list of children presented to the experimental participants consisted of 12 names drawn randomly from the classroles of the regular classrooms into which the children had been mainstreamed.

Results. Children mainstreamed on a half-day basis and administered the Piers-Harris Self-Concept Scale with standard instructions showed an

average increase of 7.30 points from the time of initial testing prior to mainstreaming. (Notice that this replicates the study reported above.) Those children who received the manipulation intended to restrict their self-concept-relevant social comparisons to the regular classroom group into which they were mainstreamed, however, exhibited an average decrease of -2.50 points. The difference between +7.30 and -2.50 was statistically significant.

Other Work

Recent work by Dona Johnson at Peabody College and in the Metropolitan Nashville Public Schools sheds additional light on the utility of social comparison theory for understanding the correspondence between experienced academic outcomes, affective reactions, and available comparative reference groups. Dona's primary interest was in examining the extent to which long-term academic failure can be viewed as an analog to laboratory induced learned helplessness. But a subset of her data also extends the series of studies reported above.

Data (academic achievement, self-concept, and WISC-R IQ) were collected on four groups of elementary school kids: 1) Children in special self-contained learning disabilities classrooms. These children remained in one classroom with similarly educationally handicapped children every day. 2) Children in regular classrooms who were at the bottom end of the academic performance distribution as indicated by a standardized achievement test stanine score of either one, two, or three. 3) Children in regular classrooms who were performing average, as indicated by a stanine of 4, 5, or 6. These children also remained in one classroom all day. 4) The last group consisted of children who had been nominated by their teachers as exceptionally talented, and who were referred to a special "enrichment" classroom twice a week where they worked with other exceptionally talented children from other classrooms.

Children in the first three groups were selected within predetermined narrow ranges of measured intellectual functioning and age from several

classrooms. Children in the last group were teacher-nominated for academic excellence or promise. Not unexpectedly, their mean WISC-R IQ was significantly greater than for the other three groups. (The difference was 30 points.)

As mentioned earlier, the actual design is far more elaborate than revealed here, but we can use this outline to derive predictions from social comparison theory regarding mean self-regard in the four groups. First, based both upon theory and our previous research, it can be hypothesized that the LD children in ability-homogeneous self-contained classrooms should have relatively robust self-esteem. In fact their mean self-esteem did not differ from that exhibited by the average performing children in regular classrooms. The low-achieving children in regular classrooms (locked into a never-ending comparison process where invariably they were at or near the bottom of the ability distribution) exhibited significantly depressed mean self-esteem.

What about the exceptionally talented group? After all, with special attention from the teacher and school, with superior academic performance and intellectual functioning, these children should be "on top of the world", so to speak. In fact their mean self-esteem was lowest of the four groups! They were significantly lower than average-performance children.

Why were the exceptionally talented also exceptionally low in self-regard? Consider that these children were selected from many classrooms, and that in their respective classrooms they were "tops". They then experienced placement in a homogenous ability group where, on the average, they were no better, smarter, or superior than anybody else. Their special "enrichment" classroom provided a setting where they no longer received deference from their classmates on intellectual matters. On the contrary, they were

faced with a situation where they were often less capable than their classmates. The effect upon the exceptionally talented children's self-esteem may be analogous to the transfer of a big frog in a small pond to a big pond. Size is, after all, relative. And so is ability.

Additional insight into the nature and effects of social comparison processes in school settings is provided by examining the within group associations between self-concept and IQ. For children in LD classrooms and for regular class average-performing children there is no appreciable relationship, $r = .18$ and $r = .10$, respectively. A significant positive relationship ($r = .42$) obtains for the exceptionally talented, however, The brightest of the bright have the highest self-concepts. With the regular class poor performers, on the other hand, the relationship is dramatically reversed, with a correlation of $-.60$. For children who are consistently below the classroom average, higher intellectual capability is associated with lower self-regard. It is almost as if greater intelligence enables the child all the more fully and painfully to realize shortcomings.

These correlational results also suggest why so many studies report little or no association between self-concept and IQ (Wylie, 1974). If the data from all the groups above are pooled and a coefficient of correlation is calculated, it is $r = -.08$.

Reliability and Validity Concerns

Before discussing the practical and theoretical significance of this set of findings it is necessary to address some issues relating to basic reliability and validity considerations. It is necessary to examine imprecision of measurement as a plausible alternative explanation.

Reliability. Reliability of self-concept assessment instruments, especially with children, is problematic. Is it possible that the obtained out-

comes represent nothing more than unreliability? There is considerable evidence to suggest that the Piers-Harris is a psychometrically reliable instrument. It was the top-rated children's self-concept assessment device in Robinson and Shaver (1973) and also was evaluated highly by Shavelson, Hubner, and Stanton (1976). The most comprehensive compendium on self-concept assessment instruments is probably Wylie's (1974) book. Her primary criticism with the Piers-Harris was that for children with learning problems, unreliability of responding may be confounded with low scores. After an extensive investigation, however, Smith and Rogers (1977) concluded that unreliability of responding was not a problem with the scale.

Perhaps more important than general statements of reliability is the issue of how reliable the instrument is with this particular classification of exceptional children; i.e., learning disabled. There is now extensive data, from different school systems and from different states. Alpha coefficients of reliability consistently range from .88 to .95 (e.g., Smith & Rogers, 1978). Even long-term (i.e., six month) test-retest coefficients of temporal stability are robust (e.g., $\underline{r}$ = .62; Smith & Rogers, 1977).

The reader also should be aware that other self-concept instruments (most frequently the Coopersmith Self-Esteem Inventory) often were employed in the studies above as a reliability check. Results always paralleled those obtained with the Piers-Harris, but the Piers-Harris consistently was more reliable.

Validity. How valid is the Piers-Harris? Does it really assess what it purports to measure? The issue here is not content validity or predictive validity, but construct validity. The self-concept is a complex psychological construct, perhaps the most complex psychological construct of all. The domain of observables (Nunnally, 1967) for this construct potentially

encompass all human behavior, particularly behavioral episodes of naturally-occurring interactions with other people. Any paper-and-pencil assessment of how people perceive themselves in an inadequate sample of the domain of observables for the self-concept construct. A more adequate sample would include self-evaluative responses such as those collected on the Piers-Harris, but also would include many behavioral observations in varied settings across a considerable time span. Such a multiple methodology approach to sampling the domain of observables related to self-concept was not possible in the studies above. The sampled domain of observables consisted only of responses to self-evaluative statements.

However, there is also construct-relevant strength embodied in the studies reported above, and it should not be ignored. The most important strength is that multiple studies are reported, involving different children and always within the overarching conceptual paradigm provided by social comparison and group reference theories. Predictions were adduced from the theories and tested with the Piers-Harris as a (admittedly incomplete) sample of the domain of observables. Across all studies (and others not reported here) children's responses have conformed to predictions adduced from social comparison and group reference theory. This is a presuasive indication of construct validity.

Implications for learning. Assuming that the outcomes are reliable and valid, what do they mean in terms of learning? Will children with augmented self-concepts learn more? The answer to this question is not clear. It is now clear that there is a far stronger relationship between academic achievement and self-concept than previously thought (Rogers, Smith, & Coleman, 1978; Smith, Zingale, & Coleman, 1978). However, the issue of which causes which is still unresolved.

One thing is for sure. Children who experience chronic academic failure think poorly of themselves when others around them exhibit superior performance. What happens to these children when they enter and subsequently leave special classrooms of various kinds, however, is inadequately understood. Educators should know how administrative arrangements affect children's self-regard. They need to know how membership in different peer groups influences self-regard.

Although the relationship between self-perception and academic achievement is complex and imperfectly understood, I have yet to meet a teacher who does not believe that an adequate level of self-respect and self-regard is a fundamental prerequisite to satisfactory social and academic functioning. The studies above make a small beginning contribution toward understanding how factors associated with special class placement and subsequent mainstreaming influence how children feel about themselves.

Discussion

What have we learned from this series of studies? As we consider this question, several caveats should be borne in mind. 1. Many of these children were school-labeled as LD. 2. There is little agreement as to what the LD label means (e.g., Coleman & Davis, 1976). 3. On the positive side, however, the academic, cognitive, affective, and demographic characteristics of these children are well-documented by Smith and his associates (e.g., Smith, Coleman, Dokecki, & Davis, 1977a). 4. A measure of external generalizability is assured in that eight different schools were involved. On the other hand, all eight schools were in the same county school system. (It can be added, however, that subsequent studies in a different county school system replicate these findings.) 5. Experimental rigor in the various studies ranged from low to high. 6. The results are suggestive only. They cannot be considered definitive.

With these thoughts in mind, we can list these conclusions:

1. School-labeled LD children in regular classrooms exhibit negative self-regard.
2. There is direct evidence that placement of LD-labeled children in resource rooms with similarly handicapped children on a half-day basis is associated with increased self-regard.
3. There is indirect evidence that placement of LD-labeled children into self-contained LD classrooms is associated with increased self-regard.
4. There is direct (and replicated) evidence that when LD-labeled children in self-contained LD classrooms are mainstreamed on a half-day basis, their self-regard escalates dramatically. It is known that this elevated self-regard is maintained at least for the duration of a school year, but beyond that there are no reliable data. (Actually, a follow-up study was conducted, but heavy attrition and myriad other uncontrolled factors made the data suspect.)
5. There is indirect evidence that when LD-labeled children in self-contained LD classrooms are mainstreamed on a full-day basis, their self-regard decreases. It is not known if the effect is permanent.
6. There is evidence that when exceptionally talented children are separated in homogeneous classrooms, their average level of self-esteem is as low as children who are failing.

The results associated with mainstreaming and other school placements were dramatic. Children mainstreamed for half of each school day with unrestricted freedom to utilize multiple reference groups exhibited increased self-concept, while children whose social comparisons were restricted to their regular classroom peers (thus weakly simulating the full-day mainstreaming

experience) exhibited decreased self-concept. The nature of the reference group restriction consisted of verbal directions to compare themselves only with regular classroom children. Although powerful, this manipulation cannot be considered an equal substitute for the actual experience of full-day mainstreaming. The experience of the regular classroom as the sole reference group may have had greater impact on the self-concepts of the experimental children. Their self-concepts might have been lowered even further by the actual experience of full-day integration. The slight decrease exhibited by the experimental children in the last experiment increases in importance, moreover, when one considers that the usual Piers-Harris test-retest effect is a mean increase of from two to five points.

This series of studies (and the findings with regard to the exceptionally talented children) has salient implications for those faced with policy responsibilities; whether at the national, school district, or classroom level. The clear implication is that how children feel about themselves is a function not simply of how well they perform, but of how well they perform relative to significant others. It appears that social comparison theory is a key to understanding affective reactions to academic outcomes, whether successful or unsuccessful.

It is more than usually appropriate to add the caveat that more research is needed. The research reported herein is suggestive, not definitive. But it does emphasize that the best-intentioned legislation may produce unexpected negative effects unless every phase of implementation is monitored closely. This monitoring, moreover, must encompass multiple dimensions of childhood functioning.

In addition to presenting important practical considerations for those involved in educational program planning, this series of studies

adds to our knowledge of social comparison and reference group theory. The potential explanatory and predictive efficacy of these theories is promising and highlight the potential of developing a fully-explicated social psychology of educational settings.

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